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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/805,919	03/15/2001	Hiroshi Sano	026350-048	2905

7590 09/23/2003
Robert G. Mukai
BURNS, DOANE, SWECKER & MATHIS, L.L.P.
P.O. Box 1404
Alexandria, VA 22313-1404

EXAMINER

COLLINS, CYNTHIA E

ART UNIT	PAPER NUMBER
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1638

17

DATE MAILED: 09/23/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Applicant N .

09/805,919

Applicant(s)

SANO ET AL.

Examiner

Cynthia Collins

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 June 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,2,7-20 and 23-25 is/are pending in the application.
- 4a) Of the above claim(s) 1,2 and 7-18 is/are withdrawn from consideration.
- 5) ☒ Claim(s) 20, 23 is/are allowed.
- 6) ☒ Claim(s) 19, 24-25 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

The Amendment filed June 27, 2003, paper no. 16, has been entered.

Claims 3-6 and 21-22 are cancelled.

Claims 19-20 are currently amended.

Claims 24-25 are newly added.

Claims 1-2, 7-20 and 23-25 are pending.

Claims 1-2 and 7-18 are withdrawn.

Claims 19-20 and 23-25 are examined.

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

All previous objections and rejections not set forth below have been withdrawn.

Claim Rejections - 35 USC § 112

Claim 24 is rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for an isolated DNA molecule comprising a nucleotide sequence of SEQ ID NO:3 or a nucleotide sequence encoding the amino acid sequence of SEQ ID NO:1, wherein the nucleotide sequence encodes a transmembrane protein, wherein the expression of said nucleotide sequence is induced by induced by injury stress, osmotic stress, salt stress and low-temperature stress, and wherein the expression of said nucleotide sequence renders a plant transformed therewith resistant to osmotic stress, does not reasonably provide enablement for isolated DNA molecules comprising nucleotide sequences obtained by nucleotide replacement, deletion or insertion in the nucleotide sequence of SEQ ID NO:3, or for isolated DNA molecules exhibiting

at least 80% homology with SEQ ID NO:3. The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention commensurate in scope with these claims, for the reasons of record set forth for claims 19-22 in the office action mailed February 27, 2003.

Applicant's arguments filed June 27, 2003, have been fully considered but they are not persuasive.

Applicant argues that the newly added claim, in reciting that the sequence has no more than five additions, deletions or substitutions, and that the sequence has 80% homology with SEQ ID NO:3, should overcome the rejection (reply page 9).

That the newly added claim limits the number of additions, deletions or substitutions to SEQ ID NO:3 to five, and that the newly added claim specifies that the sequence has 80% homology with SEQ ID NO:3, does not overcome the rejection. The replacement, deletion or insertion of even a single nucleotide in a nucleotide sequence encoding a polypeptide may alter or eliminate the specific function of that polypeptide, depending on where the replacement, deletion or insertion is made. The Examiner maintains that the specification does not provide sufficient guidance for one skilled in the art to determine, without undue experimentation, how to replace, delete or insert even a single nucleotide in the nucleotide sequence of SEQ ID NO:3 such that the function of the encoded protein is not altered or eliminated, or how to select, without undue experimentation, a sequence having 80% homology to SEQ ID NO:3 that encodes a functional protein, because the specification does not indicate what regions of SEQ ID NO:1 are critical to the function of the polypeptide it represents and which regions are not. Applicant does not provide sufficient guidance as to how one can readily eliminate inoperable

embodiments without undue experimentation. Reciting the desired outcome of resistance to osmotic stress is not sufficient guidance, and is an invitation to experimentation.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 19 and 24, and claims dependent thereon, are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claims 19 and 24 are indefinite because it is unclear in what context the expression of the nucleotide sequence would be induced by osmotic stress and would render a transgenic plant resistant to osmotic stress. It is suggested that the claims be amended to indicate that expression of the nucleotide sequence occurs in a transgenic plant. Claims 19 and 24 are also indefinite in the recitation of the indefinite article "a" before "transgenic plant" in line 6. It is suggested that the claims be amended to recite "the transgenic plant".

Claim 24, and claims dependent thereon, is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim 24 is indefinite in the recitation of "at least 80% homology". The nature of the homology between the two isolated nucleotide sequences is unclear. Do they exhibit 80% functional homology? 80% amino acid sequence homology? 80% homology of some other shared feature?

Claim 25, and claims dependent thereon, is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject

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matter which applicant regards as the invention. Claim 25 is indefinite in the recitation of "under stringent conditions at temperatures ranging from 42°C to 65°C for a time period ranging from 1 hour to overnight". It is unclear what type of stringent conditions would yield the claimed isolated DNA molecule, as stringency conditions are generally not defined solely by temperature.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

Remarks

Claim 19, 24 and 25 are rejected.

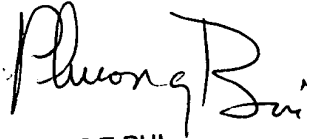
Claims 20 and 23 are allowed.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Cynthia Collins whose telephone number is (703) 605-1210. The examiner can normally be reached on Monday-Friday 8:45 AM -5:15 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Amy Nelson can be reached on (703) 306-3218. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 308-4242 for regular communications and (703) 308-4242 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0196.

CC
September 22, 2003


PHUONG T. BUI
PRIMARY EXAMINER